Document Control

Page 1

Item ID: D350-636-012 Accept \*N900040100\* Setup Start **Revision ID:** Skidtube RH Item Name: Start Qty: 1.00 Start Date: 30/10/2012 Cust Item ID: **Required Date:** 13/11/2012 Req'd Qty: 1.00 **Customer:** Reference: Run Process Plan: \_ MLJ \_\_\_ Date: 12-10-30 Tooling: Approvals: Date: QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool # Plan Reject Tool ID Reject Accept **Work Center ID** Description **Run Hours** Code Qty Qty Number Stamp Draw Nbr **Revision Nbr** D2750  $\mathcal{C}$ D3492 DOCUMENT CONTROL \*100\* Memo

Photocopy blue file and type labels per PPP D350-636-012 CHG 006

Insp.

NCR:	Yes	/	No

NCR:	⁄es	/ No				WORK ORDER NON-CONFORMANCE / UPDATE					QA Closed:	Date:	***
Work Orde	-ri			•		DISPOSITION				AGAINST DI	EPARTMENT,	/PROCESS 🚛 🚡	
Part N	۱۰. . No.		Scrap Machining Small-Fab Use-as-is Thermoforming Finishing						Crosstube Small-Fab Finishing Composite	Rec/Sto	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other	
			 T						7	-1:	J Sign 9		7
Root				<u> </u>		iption of work order update		tial		ction	Sign &	Mauifiantina	OC Inspector
Cause		Date	Step	Qty		or Non-conformance	Cnie	f Eng	Des	cription	Date	Verification	QC Inspector
oc/Data	$\dashv$		*								·		
quip/Tooling	ᅴ			·		•							
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Other	$\dashv$					•	١.				,		
rocess	$\Box$								₹,				
upplier				. 1			1 . 3.		,				
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Inapproved		•	L								<u> </u>	İ	
			- 4				FAULT	CATE	GORY				
Landi		ŀ			<u></u>	General					j		7
	-	Bending				Bend	<b>├</b> ──┤	irain		_	Ovalized	<u> </u>	Pressure/Forced
	_	Centre No	ot Concer	ntric to (	D/S	BOM/Route	$\vdash$	ardwa		<u></u>	Over/Under	<b> </b>	Temperature/Cure
		Cracks			<u> </u>	Broken/Damaged	-		on Incomplete	<u> </u>	Part Incorre	<u> </u>	Weld .
		Crushed/0	Crimped.		_	Burrs	-		ions Incomplete	/Unclear	Part Lost/Mi	issing	Wrong Stock Pulled
		Cuffs				Contamination <sup>-</sup>	$\square^{\wedge}$	/lainte	nance		Part Moved		* 8
		Heat Trea	t			Countersink	Шм	1islabe	led		Positioned V	Vrong	<b>,</b>
		Inspection	n Strip in	Tube		Cut Too Short	∐v	1isreac	i		Power Loss/	Surge	Other
		Ripples in	Bend			Drill Holes	0	ffset					
		Torque W	aves in E	xtrusior	,	Drawing	0	ut of C	Calibration				
		Turning Se	equence			Finish	По	ut of S	Sequence				3
·		Wave/Tw	ist in Tub	e		Folio	По	utside	Dimensions				

Item ID: Revision ID: Item Name:	D350-636-0 Skidtube RH		···· · · · · · · · · · · · · · · · · ·	Accept	1100	)* ፡	Setup Star Sto	IV	S1*		
Start Date:	30/10/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1 <sup>°</sup> *1°		Cust Item Customer:				b		
Approvals:	Process PI QC:	an:		Tooling: SPC (Y/N):		)ate:		I	Run Star	I/I	R1*
Sequence ID/ Work Center I		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
*110 *110* Skidtubes Skidtubes		AFT end pe	WD and AFT ends, re r dwg D2750	0.00 0.00 emove bending marks. Scribe b		÷.			· Ø	Œ.	12.11-
		deburr.  Locate D'fitting  Drill only  Drill pilot Jig DT8150  Clecko D  ***SECONI	T8329 off of blade fit two fwd step holes u t holes as per Dwg D2 & DT8863A for first T8863B on second sid D SIDE*** toles for Detail "K" to	ting bolt holes using D18983. Open ting bolt holes and drill pilot holes sing DT9616. Ensure proper poles. 2750 sheet 4 (D2750-2 details), side only DT8863B for second de of tube and drill pilot holes in 0.375" (4 holes per side) and batholes per side) as per dwg D2 ail L to 0.500" (8 holes per side)	oles for blade ositioning. Drill using drill I side (detail K) for detail B. lade fitting 750 Open up		•			e e e	
•			-	as per Dwg D2750 using DT81						٠	

-18-Open up holes of Detail A to 0.297" (total of 2 holes per side)

NCR:	Yes	/	Nο

# WORK ORDER NON-CONFORMANCE / UPDATE

DQA:	Date	:	•

										QA Closed:	Da	te:	
Work Orde	r:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
Part N	****				Rework Scrap	1	l,	Skid-tube Machining	Crosstube Small Fab	-4	Water Jet d. Eng. Coor.	Quality	
NCR N	0			<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	Use-as-is Work Order Update	]		oforming Large Fab	Finishing Composite	Rec/stol	re/Packaging Supplier	<del></del>	
Root				Descri	ption of work order update	lni	itial	A	ction	Sign &			
Cause	Date	Step	Qty		or Non-conformance	Chie	hief Eng Description			Date	Verificatio	n QC Inspec	tor
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved				:									
Onapproved 1	_1	l	<u> </u>		F	AULT	CATE	ORY		<u>.l</u>	<u>l_,</u>		
Landin	g Gear				General								
Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence  Bend BoM/ BoM/ Bom/ Bom/ Bom/ Burrs Contan Country Cut Too				BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish	H Irr	nstructi Mainte Mislabel Misread Offset Out of C	on Incomplete ons Incomplete, nance led alibration equence	/Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong	Pressure/Force Temperature/0 Weld Wrong Stock P  Other	Cure	
Wave/Twist in Tube					Folio	1 10	Ahistut	Dimensions					

Item ID: Revision ID:	D350-636-0	12		Accept	*N900	1040	1100	)*	Setup Sta	1.7	IS1*
Item Name:	Skidtube RH		•						St	op *N	S2*
Start Date:	30/10/2012	Start Qty: 1.00	*1*		Cust Item	ID:					
Required Date Reference:	: 13/11/2012	Req'd Qty: 1.00	*1*		Customer:						
Approvals:	Process Pla	ın:	Date:	Tooling:	D	ate:	- <del>-</del>	J		art *N	R1*
	<b>QC</b> :		Date:	SPC (Y/N):	D	ate:	, <del></del>		Sto	<sup>ор</sup> *N	R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
		from bendin A/R Alum	2744 Cap as per Dwg E ag as per QSI 004 ainum Rod batch // elds flush as per Dwg E		es in bend left EFIQ-11-0B						
120		QC10- Inspect visual per	r QSI004- ground weld	s 0.00							12 Ta 125
*120* QC Quality Control		Memo		0.00					-1 <i>3-</i> 11-	·13 -1	09
*130		QC5- Inspect part compl	eteness to step on W/O	0.00						\ <u></u>	DAG
QC		Memo		0.00					19-11	1-17	- 60
Quality Control											

NCR: Y	es / No				WORK ORDER NON-	COI	<b>NFOR</b>	MANCE / UPE	DATE			
	,									QA Closed:	Date	:
Work Orde	r:				DISPOSITION	1			AGAINST DE	PARTMENT	_	*
Part No	0.		······································		Rework Scrap Use-as-is	_	1	Skid-tube Machining noforming	Crosstube Small Fab Finishing	-1	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	0				Work Order Update			Large Fab	Composite		Supplier	
Root				Descri	ption of work order update		nitial	Act	ion	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data												
quip/Tooling												
Operator				•								
Material							:					
Setup												
Other												
Process					•							
Supplier												
Training	_											
Unapproved		<u> </u>										
			•			AUL	T CATE	GORY				
Landin	g Gear				General		,		,	<b>-</b>	<b>-</b> -	
L	Bending				Bend	_	Grain			Ovalized	L	Pressure/Forced
	Centre No	ot Concer	ntric to O	/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged			on Incomplete	<u> </u>	Part Incorre	ct _	Weld
	Crushed/	Crimped.			Burrs		1	ions Incomplete/U	Inclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs		•		Contamination		Mainte			Part Moved		
L	Heat Trea	it			Countersink		Mislabe	eled		Positioned V		_
	Inspection	n Strip in	Tube		Cut Too Short	L	Misreac	i		Power Loss/	Surge	Other
	Ripples in	Bend			Drill Holes		Offset					
	Torque W	aves in E	xtrusion		Drawing	1	Out of 0	Calibration				

Outside Dimensions

DQA:

Daté:

Turning Sequence

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Item ID: Revision ID:	D350-636-01	2		Accept	*N900	<u>040</u>	100	<b>)*</b> s	Setup Sta	rt *N	S1*
Item Name:	Skidtube RH								Sto	<sup>р</sup> *N	S2*
Start Date:	30/10/2012	Start Qty: 1.00	*1*		Cust Item I	D:					
Required Date:	13/11/2012	<b>Req'd Qty:</b> 1.00	*1*		<b>Customer:</b>						
Reference:			-								
Approvals:	Process Plan	n:	Date:	Tooling:	D:	ate:		R	Run Sta	1/1	R1*
	QC:		Date:	SPC (Y/N):	Da	ate:			Sto	*N	R2*
Sequence ID/ Work Center II	<b>D</b>	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		Chemical Conversion Co	at per QSI005 4.1	0.00						9	
*140* HandFinish		Memo		0.00					H	12-11	<u> 13</u>
Hand Finishing											
											a.
150		QC7-Inspect Chemical C	onversion Coat	0.00							
*150*							•		d	BE1211	1-13
QC Quality Control		Memo		0.00							
Quanty Control											

vi.

										DQA:	Date:	•
NCR: Y	es / No				WORK ORDER NON-C	O	NFORM	AANCE / UP	DATE	QA Closed:	Date:	
Work Orde				·	DISPOSITION				AGAINST DE		/PROCESS	
					Scrap Machining Small Use-as-is Thermoforming Finite Work Order Update Large Fab Comp			Crosstube Small Fab Finishing Composite	Pro Rec/Sto	Engineering Quality Other		
Root				Descri	ption of work order update		nitial	Act	tion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved	ng											
						AUL	T CATE	JORY				
Landi	Bending Centre No Cracks Crushed/ Cuffs Heat Trea Inspectio Ripples in	Crimped ot n Strip in Bend	Tube		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Instructi Mainte Mislabe Misread Offset	on Incomplete ions Incomplete/t nance led	Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
i	Torque W	raves in E	extrusion	1	Drawing	l	Out of C	.anoration				

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

Item ID: Revision ID: Item Name:	D350-636-0 Skidtube RH	12	* t	Accept	*N900	0040	100	<b>)</b> *	Setup	Start Stop	*N	S1* S2*	
Start Date: Required Date: Reference:	30/10/2012 13/11/2012	Start Qty: 1.00 Req'd Qty: 1.00	•		Cust Item I	ID:						. 7/	
Approvals:	Process Pla	ın:	Date:	Tooling:		ate:			Run	Start	*N	R1*	
	QC:		Date:	SPC (Y/N):	D	ate:				Stop	*N	R2*	
Sequence ID/ Work Center II	)	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Rej Qty		Reject Number	Insp. Stamp	
*160* Skidtubes Skidtubes		side) as po 2-Open up as per dwg 3-Open flo 4-Chamfe (welding i 5-Deburr a 6-Prepare 7-Bond wo A/R Sik 8- Weld sp (welding i	p holes of Detail K to 0.75: g D2750.  oat holes to .500" (4 per Si er holes of Detail K, L, grou instructions on sheet 9)  and blow out all chips from tube for welding, remove a eb D2739 in place as per C saflex-291 batch:  exp. d  pacers D3490-1, D3490-3 instructions on sheet 9)	0.00  ound handling to 0.625" (total of 4 holes per side)  de)  und handling and float holes  in inside of tube  alodine as required.  081 015	per dwg D2750		3£ 121	1-13					
		9- At secti	on AP-AP drill out x-bolt swelds flush as per Dwg D2 ce ground handling holes s	spacer to 0.404"	6 12-11-15 side) as per		)/2	2-/	/-/	5	-		

											DQA:	, Dat∉:	<u> </u>
NCR:	Yes	/ No				WORK ORDER NON-O	CO	NFORI	MANCE / UP	DATE			. *-
											QA Closed:	Date:	, a
Work Ord	or.					DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	
Work Ord	CI					Rework	7		Skid-tube	Crosstube	1	Water Jet	Engineering
Part	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	-					Use-as-is	1	Thern	noforming	Finishing	Rec/Stor	re/Packaging	Other
NCR	No.					Work Order Update	]	ļ	Large Fab	Composite		Supplier	
								<u> </u>					,
Root						ption of work order update		Initial	1	tion	Sign &		
Cause	.	Date	Step	Qty		or Non-conformance	Ct	nief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling	Ш												
Operator	Ш		ĺ										
Material	Ш												
Setup	Н			, l									
Other	Н								1				
Process	Н												
Supplier Training	Н												
Unapproved	Н							. 4.					
Ollappioved			1	<u> </u>		F.	AUI	LT CATE	GORY		·		<u> </u>
Land	ing G	iear				General					<u> </u>		
		Bending				Bend		Grain			Ovalized		Pressure/Forced
	П	Centre No	ot Concer	ntric to C	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
					Broken/Damaged		Inspect	ion Incomplete		Part Incorre	ct .	Weld	
Crushed/Crimped. Burrs				Burrs		Instruct	ions Incomplete/l	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled		
Cuffs Contan						Contamination		Mainte	nance		Part Moved		
		Heat Trea	at į			Countersink	L	Mislabe	:led		Positioned V		
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	j		Power Loss/	Surge	Other
		Ripples in	Bend			Drill Holes	$\perp$	Offset					
l 1					ı	Drawing		Out of 0	Calibration				

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

**Required Date:** 13/11/2012

Item ID: D350-636-012

Accept

\*N900040100\*

Setup Start

**Revision ID:** Item Name:

**Start Date:** 

Skidtube RH

30/10/2012

Start Qty: 1.00 Req'd Qty: 1.00

Cust Item ID:

**Customer:** 

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Stop

Sequence ID/

Operation

Tool ID

Tool # Plan

Accept Qty

Reject

Insp.

**Work Center ID** 

Description

dwg D2750

12-Deburr holes

Set Up/ **Run Hours** 

Code

Qty

Run

Reject Number

Stamp

170

QC10- Inspect visual per QSI004- ground welds

\*170\*

Quality Control

Memo

180

QC5- Inspect part completeness to step on W/O

0.00

\*120\*

Memo

**Quality Control** 

\*\*\*VERIFY C'BOARD IS GOOD\*\*\*

						,						DQA:	Dat	e:·
NCR:	Yes	/ No				WORK ORDER NON-O	COI	NFORI	MANCE / UPI	DATE		QA Closed:	 Dat	e:
		<del></del>				DISPOSITION				AGAIN	ST DE	PARTMENT		<u> </u>
Work Ord	er: ˌ						7	•			<del></del>	Ì	_	
Part	No.	<u>.                                    </u>				Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstu Small F Finishi	ab	ł	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR	No.	<u></u>				Work Order Update	]		Large Fab	Compos		1,00,000	Supplier	
Root		<del></del>			Descri	ption of work order update		Initial	Act	ion		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Descr	ription		Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator														
Material Setup														
Other Process	Н													
Supplier	H													
Training														
Unapproved			•.,											
		,				F	AUL	T CATE	GORY					
Landi	ng G	Gear				General		_				•	_	· · · · · · · · · · · · · · · · · · ·
		Bending				Bend	L	Grain				Ovalized	. [	Pressure/Forced
		Centre No	ot Concer	itric to C	)/S	BOM/Route		Hardwa	re		L	Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged		Inspecti	on Incomplete			Part Incorred	ct [	Weld	
	Crushed/Crimped.				Burrs	L	Instruct	ions Incomplete/L	Jnclear		Part Lost/Mi	ssing	Wrong Stock Pulled	
		Cuffs				Contamination		Mainte	nance			Part Moved		
		Heat Trea	ıt			Countersink		Mislabe	led			Positioned V	Vrong	
		Inspection	n Strip in	Tube		Cut Too Short		Misread	I			Power Loss/	Surge [	Other
		Ripples in	Bend			Drill Holes		Offset				<del>-</del>		
		Torque W	aves in E	xtrusion		Drawing		Out of 0	Calibration					

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Item ID: D350-636-012  Revision ID: Item Name: Skidtube RH  Start Date: 30/10/2012 Start Qty: 1.00  Required Date: 13/11/2012 Req'd Qty: 1.00			*1*	Accept	*N900		100	)*	Setup	Start Stop	ı VI .	S1* S2*
Required Date: Reference:	13/11/2012	Req'd Qty: 1.00	*1*		Customer:							
Approvals:		n:	Date:	Tooling: SPC (Y/N):		ate:	- 		Run	Start Stop	1/1/	R1* R2*
Sequence ID/ Work Center II  190  *100* HandFinish Hand Finishing	)	Operation Description Pressure Wash per QSI005  Memo Re-alodine tul		Set Up/ Run Hours 0.00 0.00 14.1.2.1 do not acid etch.	Tool ID	Tool#	Plan Code	Accept Qty	Qty	. ]	Reject Number	Insp. Stamp
200 *200* Powdercoat Powder Coating	£78	White Gloss(Ref:4.3.5.1) p  .  Memo START TIME OVEN TEMP FINISH TIME	= 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.00 0.00 20				Ιχ,	S			MJ 12/11/6
210 *210* QC Quality Control		QC3-Inspect Part Finish  Memo Inspect for fore	eign object per QSI 024	0.00				IRM	( <u> </u>		<u>M</u> ,	elulzi

NCR: Y	·												
											QA Closed:	Dat	e:
Work Orde	er:					DISPOSITION				AGAINST DI	EPARTMENT,	/PROCESS	
Part N						Rework Scrap Use-as-is Work Order Update		Thern	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	<b>⊣</b>	Water Jet d. Eng. Coor. e/Packaging	Engineering Quality Other
NCR N	NO					work Order Opdate	J		rarge ran	Composite	_	Supplier	
Root Cause		Date	Step	Qty	-	otion of work order update or Non-conformance		Initial nief Eng	1	ction cription	Sign & Date	Verification	a QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved	ooling or												
	•					F	AUI	T CATE	GORY				
Landir	Landing Gear  Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion			General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset	on Incomplete ions Incomplete/ nance led	/Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other		

Outside Dimensions

DQA:

Date: \_\_

Turning Sequence

Wave/Twist in Tube

Finish

# \*92462\*

Item ID: Revision ID:	D350-636-0	12		Accept	*N900	040	100	)*	Setup Star	*N	S1*
Item Name:	Skidtube RH								Stop	*N	S2*
Start Date:	30/10/2012	Start Qty: 1.00	*1*		Cust Item	ID:					
Required Date	: 13/11/2012	Req'd Qty: 1.00	*1*		<b>Customer:</b>						
Reference:					_						
Approvals:	Process Pla	n:	Date:	Tooling: _	D	ate:	-	I	Run Star	"IV	R1*
	QC:		Date:	<b>SPC (Y/N):</b>	Da	ate:			Stop	` *N	R2*
Sequence ID/ Work Center I	D	Operation Description	<del></del>	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230				0.00					1		. 1
*230*		HandFinishing						IRH	<i>k</i>	$\mathfrak{g}(I)$	1/1/21
HandFinish		Memo		0.00					· — P	<i>J</i> <u> </u>	2 ( <u> </u>
Hand Finishing		1-Install inse	erts as per dwg D2750								

2-Inspect for Foreign Objects

3-Spray inside of tube with "LPS-3" batch:  $V \ \Box$ 

4-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750
SIKA FLEX 241
BATCH: 113025
EXP DATE: 1200

5-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch:  $\frac{1}{2}$ 

6-Coat all exposed fasteners with "LPS Procyon" batch:  $\find \find \fi$ 

												DQA:	D	ate:	
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFOR	MANCE / UP	DATE		•			
								•		· **		QA Closed:	D	ate:	
Work Ord	ar.					DISPOSITION				AGAINST D	εF	PARTMENT	PROCESS		
Work Old	C1.					Rework	٦		Skid-tube	Crosstube	٦		Water Je	t	Engineering
Part I	No.					Scrap	1	1	Machining	Small Fab	1	Pro	d. Eng. Coor		Quality
						Use-as-is	]	Thern	noforming	Finishing		Rec/Stor	e/Packaginį	g	Other
NCR I	No.			· · · · · · · · · · · · · · · · · · ·		Work Order Update			Large Fab	Composite			Supplie	r	
Root		<del></del>			Descri	ption of work order update		Initial	Act	tion	T	Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Cr	nief Eng	Desc	ription	4	Date	Verificati	on	QC Inspector
Doc/Data															
Equip/Tooling	Ш													ŀ	
Operator	Ш														
Material	L										ı				
Setup		,	-		•										
Other														į	
Process															
Supplier											- 1		,		
Training			į											•	
Unapproved			<u> </u>								╝				
						<u></u>	AUI	LT CATE	GORY		_				·····
Landi	ing (	Gear				General	_	7		<b></b>		Ì			1
		Bending				Bend		Grain				Ovalized			Pressure/Forced
	L	Centre Not Concentric to O/S				BOM/Route		Hardwa	re	_		Over/Under	tolerance		Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete			Part Incorred	:t		Weld
	Crushed/Crimped.					Burrs		Instruct	ions Incomplete/l	Jnclear		Part Lost/Mi	ssing	L	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance			Part Moved				
	Heat Treat					Countersink		Mislabe	led			Positioned V	√rong		
		Inspectio	n Strip in	Tube		Cut Too Short		Misreac	I			Power Loss/	Surge		Other
1	Ripples in Bend					Drill Holes		Offset				-			

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Page 9

October-30-12 8:47:55 AM

Item ID: Revision ID: Item Name: Start Date: Required Date: Reference:	D350-636-0  Skidtube RH  30/10/2012  13/11/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*	Accept	*N9(	tem I		100	)*	Setup Sta	, IV	S1* S2*
Approvals:		n:				==	ite:			Run Sta Sto	1/	R1* R2*
Sequence ID/ Work Center II 240 *740* QC Quality Control	)	Operation Description QC5- Inspect part compl	eteness to step on W/O	Set Up/ Run Hours 0.00 55	Tool	ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250 *250* Packaging Packaging		Pick Kit . Memo		0.00					L	· · · · · · · · · · · · · · · · · · ·		12/11/83
260 <b>*260*</b> QC Quality Control		QC4- 100% Inspect kits	for completeness	0.00 /S	) 26				_)			

NCR: Y	es / No				WORK ORDER NON-	CONF	ORN	MANCE / UPI	DATE			
	,							<u>-</u>		QA Closed:	Date	:
Work Orde	r·				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	0.				Rework Scrap Use-as-is Work Order Update		l herm	Skid-tube  Machining noforming  Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					ption of work order update	Init	ial	Act		Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Chief	Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training				•	,							
Unapproved		İ				<u> </u>				<u> </u>		
						AULT (	CATE	GORY				
Landin	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing	Ha Ins Ins Mi Mi	structi ainte islabe isread fset	on Incomplete ions Incomplete/L nance led	inclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
ĺ	Turning S	equence		1	Finish	lou	ut of S	equence				

Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

Item ID:

D350-636-012

**Revision ID:** 

Skidtube RH Item Name:

**Start Date:** 

QC:

30/10/2012

Start Qty: 1.00 **Required Date:** 13/11/2012

Req'd Qty: 1.00

Accept

**Cust Item ID:** 

**Customer:** 

**Tool ID** 

Reference:

Approvals:

Process Plan: Date: Date:

**Tooling:** 

Set Up/

SPC (Y/N):

Date: Date:

Tool # Plan

Code

\*N900040100\*

Run

Setup Start

Stop

Sequence ID/ **Work Center ID** 

270

\*270\*

Packaging

Packaging

Packaging

Operation

Description

Memo Package as per PPP D350-636-012 Run Hours

Qty Qty

Accept

Reject Reject Number

Insp. Stamp

280

QC21- Final Inspection - Work Order Release

0.00

QC Quality Control

Memo

0.00

											DQA:	Date	ë:
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORI	MANCE / UP	DATE	•	-	
											QA Closed:	Date	e: <u>.</u>
Work Ord	ar.					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
WOIK OIG	C1.					Rework	7		Skid-tube	Crosstube	]	Water Jet	Engineering
Part	No.	···				Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is		Thern	noforming	Finishing	Rec/Stor	e/Packaging[	Other
NCR	No.					Work Order Update	]		Large Fab	Composite	]	Supplier	
						L	<del></del>			<del></del>			
Root		5.	ļ <sub>c</sub> .			ption of work order update	1	Initial		tion	Sign &		001
Cause	,	Date	Step	Qty		or Non-conformance	Cr	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	$\vdash$												
Equip/Tooling	-												
Operator Material	-						Ì						
Setup ·													
Other	Н												
Process	Н												
Supplier	П												
Training												:	
Unapproved							<u></u>						
						F.	AUI	LT CATE	GORY				
Landi	ng G	Gear				General		-		<u> </u>	_		
	Ш	Bending				Bend		Grain		ļ <u></u> .	Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to C	)/S	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	$\vdash$	Cracks				Broken/Damaged		4 .	on Incomplete	:	Part Incorred	ļ	Weld
	-	Crushed/	Crimped.		<u> </u>	Burrs		-	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	-	Cuffs				Contamination	<u></u>	Mainte		<u> </u>	Part Moved		
	$\vdash$	Heat Trea			<u> </u>	Countersink	_	Mislabe		ļ	Positioned W		$\neg$
		Inspection	•	Tube	<u> </u>	Cut Too Short	<u></u>	Misread	I		Power Loss/S	Surge	Other
	-	Ripples in			<u> </u>	Drill Holes	$\vdash$	Offset					
	1 1	Torque W	aves in E	xtrusion		Drawing		Out of 0	Calibration				

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

October-30-12 8:48:00 AM

Work Order ID: 92462

\*92462\*

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:102.09.25Rearranged procedure stepsKJ

IPP Rev:J 06-03-29 IPP Rev:K 06-07.13

As per dsi9343

As per Rev D EC

IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC

IPP Rev:M 08-04-22

update steps 4,13 DD verified by:EC

IPP Rev:N 08-09-23 revF as per dwg DD verified by:ec 10.06.22 revise seq110 DD verf:EC

IPP Rev:O IPP Rev:P 10.10.01 as

per IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	•	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-3-BENT		Manufactured	No			110	Each	35.0000		1			
*D2600-3-	-RFNT*								**		CF.	12-11-	8
				Location	<u>l</u>	Loc	Oty	Loc Code		-			
				LG			35						
					66875		7		. —		_		
					73253		1						
					75021		1		_	· · · · · · · · · · · · · · · · · · ·	_		
		•			75022		1	•			_		
					75023		1				_		
					81330		4		-				
					83305		1				_		
ř					92049		19		·	1			
D2744		Manufactured	No			110	Each	51.0000	1	1			
*D2744*									**			BE121	1-08
				<b>Location</b>		Loc	<u>Qty</u>	Loc Code					
				LG002			51						
					62715		1				-		
					85506		22		•		_		

28

91307

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UPD		QA Closed:	Date	2:
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	_	
Part I	-					Rework Scrap Use-as-is Work Order Update		f Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root						iption of work order update	1	Initial	Acti		Sign &	_	
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Descri	ption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved												,	
						F	AUI	LT CATE	GORY				
Landi	ng G	iear				General		=			-	_	
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion			Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misreac Offset	on Incomplete ions Incomplete/Ui enance eled	nclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other		
1	Turning Sequence					Finish		Out of S	Sequence				

Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

October-30-12 8:48:00 AM

• Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

D2739

\*D2739\*

350 I Beam

Manufactured

160

Each

7.0000

\*\*

BE12-11-13 B91650 01

<b>Location</b>	Lo	e Qty	Loc Code		Ø ,
LG		7			
72155		1			
81508		1			
85487		1			
87734		1			
91729		3			
	160	Each	163.0000	8	

D2743

Crossbolt Spacer

Manufactured

\*\*

BG12-11-14

Location	Loc Qty	Loc Code	
LG	89		
81965	23		
83262	2		-
85459	4		
88504	60		8
LG001	74		
67766	4		
68251	3		
73403	64		
74445	1		
79517	2		

											DQA:	Date:	*		
NCR:	Yes	/ No				WORK ORDER NON-CONFORMANCE / UPDATE						Data			
·						·					QA Closed:	Date:	<u>.</u>		
Marie Oud	1					DISPOSITION					GAINST DEPARTMENT/PROCESS				
Work Order:						Rework		Skid-tube Crosstube			Water Jet	Engineering			
Part No.						Scrap	-		<b>——</b>	all Fab	Pro	d. Eng. Coor.	Quality		
Fait No.						Use-as-is	` <b>├┤ !</b>			nishing	-	re/Packaging	Other		
NCR No.						Work Order Update	1		~ <del>~</del> —	posite		Supplier	1 -		
													-		
Root					1	ption of work order update	- 1	Initial	Action		Sign &				
Cause		Date	Step	Qty		or Non-conformance	Ct	nief Eng	Description		Date	Verification	QC Inspector		
Doc/Data															
Equip/Tooling	·				:										
Operator	<u> </u>		1												
Material	_														
Setup	-														
Other	-														
Process	-														
Supplier	-														
Training Unapproved	$\vdash$														
Onapproved	.1	L	<u>, I , </u>	l	1		FAUI	LT CATE	GORY		<u></u>	<u> </u>	1		
Land	ing (	Gear				General									
		Bending				Bend		Grain			Ovalized		Pressure/Forced		
		Centre N	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure		
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld		
		Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/Unclear		Part Lost/M	issing	Wrong Stock Pulled		
		Cuffs				Contamination		Mainte	nance		Part Moved				
		Heat Trea	at			Countersink		Mislabe	led		Positioned Wrong		÷1		
1		Inspectio	n Strip in	Tube		Cut Too Short		Misread	1		Power Loss/	Surge	Other		

Offset

Out of Calibration Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

October-30-12 8:48:00 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

Location

**Start Date:** 30/10/2012

Start Qty: 1.00

\*\*

**Required Date:** 13/11/2012

Required Qty: 1.00

D3490-3

\*D3490-3\*

Cross Bolt Spacer

Manufactured

Manufactured

No

No

160

Each

Loc Qty

46.0000

Loc Code

BE 12-11-14

8612-11-14

LG 40 90352 40 LG001 6 86980 Manufactured 160 No Each 57.0000

> 74875 77042

75548

\*\*

D3490-1

Cross Bolt Spacer

Location Loc Qty Loc Code 48

LG 81976 2 86979 24 22 88617 LG001 62450

3

Each

13

Washer

D3631-1

Locatio	<u>n</u>	Loc Oty	Loc Code
FG		20	
	81874	2	
	83588	18	
FP-A		88	
	91606	88	*
ST072		15	
	68062	2	

230

\*\*

123.0000

October-30-12 8:48:00 AM

**Shop Packet Print** 

Page 3

											DQA:	Dat	e: _		
NCR:	Yes	/ No				<b>WORK ORDER NON-</b>	CO	NFOR	MANCE / UP	DATE					
											QA Closed:	Dat	<u>e:</u>		
NA ( a ml ) O mel						DISPOSITION			AGAINST DEPARTMENT/PROCESS						
Work Ord	er.					Rework			Skid-tube	Crosstube	7	Water Jet	$\neg$	Engineering	
Part No:						Scrap	$\exists$	١,	Machining	Small Fab	Pro	d. Eng. Coor.	$\dashv$	Quality	
raitino.					<del></del>	Use-as-is	1	1	noforming	Finishing	-	e/Packaging	$\neg$	Other	
NCR I	No.					Work Order Update	1		Large Fab	Composite		Supplier	$\neg$		
						<u> </u>					<u>-</u>			-	
Root					Descri	ption of work order update	1	Initial		tion	Sign &			•	
Cause		Date	Step	Qty		or Non-conformance	Ct	nief Eng	Desc	ription	Date	Verification	$\sqcup$	QC Inspector	
Doc/Data															
Equip/Tooling															
Operator														•	
Material			t												
Setup															
Other															
Process															
Supplier													- 1		
Training															
Unapproved		<u> </u>													
							AUI	LT CATE	GORY						
Landi	ng (	1		,	<del></del>	General		7		<b>,</b>	٦	r			
	<u>_</u>	Bending				Bend	<u></u>	Grain			Ovalized	1	$\overline{}$	Pressure/Forced	
	<u> </u>	Centre No	ot Concer	ntric to (	o/s	BOM/Route		Hardwa			Over/Under	h h	$\dashv$	Temperature/Cure	
	L	Cracks				Broken/Damaged	$\perp$	┥ :	on Incomplete		Part Incorre	F		Weld	
1	Crushed/Crimped Burrs							Instruct	ions Incomplete/	Unclear	Part Lost/Missing			Wrong Stock Pulled	

Maintenance

Out of Calibration

Out of Sequence

**Outside Dimensions** 

Mislabeled

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Part Moved

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Inspection Strip in Tube

Torque Waves in Extrusion

Cuffs

Heat Treat

Contamination

Countersink

Cut Too Short

Drill Holes Drawing

October-30-12 8:48:00 AM

• Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date: 13/11/2012** 

Start Qty: 1.00

Required Qty: 1.00

D3791-1

\*D3791-1\*

Wearplate

D3793-3

Manufactured No 230

Loc Oty

Each

10.0000

Loc Code 1591899

17.0000

		FP001			7
			89244		7
		FP002			3
			62239		2
			83392		1
Manufactured	No			230	Each

Location

\*\*

Wearshoe

MS21043-6 Purchased

No

Location	Loc Qty	Loc Code
FP001	17	
87135	5	
91326	12	

230 Each 408.0000

\*\*

Locatio	<u>on</u>	Loc Qty	Loc Code
FG		20	
	103693	20	
ST301		388	
	117887	4	
	120308	384	

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	_
1	

October-30-12 8:48:00 AM

NCR: Y	res / No				WORK ORDER NON-	COI	NFORM	MANCE / UPI	DATE					
-										QA Closed:	Date	·		
Work Orde	er:				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
				<del></del>	Rework	Rework Skid-tube Crosstube			Crosstube	]	Water Jet	Engineering		
Part N	lo.				Scrap			Machining	Small Fab	-i	d. Eng. Coor.	Quality		
NCR No.					Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite			Rec/Sto	Other					
Root				Descri	ption of work order update		nitial	Act	ion	Sign &				
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector		
Doc/Data														
Equip/Tooling														
Operator														
Material														
Setup														
Other														
Process														
Supplier														
Training	_													
Unapproved		1	11											
						AUL	T CATE	<b>SORY</b>		***************************************				
Landii	ng Gear		* (	ا	General		۱			7 ,	_	7		
	Bending				Bend	: <del>" " '</del>	Grain		<u> </u>	Ovalized		Pressure/Forced		
		lot Conce	ntric to C	)/S	BOM/Route	-	Hardwa		<u> </u>	Over/Under	<del> </del>	Temperature/Cure		
	Cracks			,	Broken/Damaged	-	i '	on Incomplete		Part Incorre	<b>⊢</b>	Weld		
		/Crimped	•	-	Burrs	-	4	ions Incomplete/U	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled		
ļ	Cuffs	_			Contamination	$\vdash$	Mainte		<u> </u>	Part Moved	Manag			
	Heat Tre			-	Countersink	-	Mislabe		<u></u> -	Positioned V	<del></del>	7045		
ļ		on Strip in	Tube		Cut Too Short	<u> </u>	Misread		· L	Power Loss/	Surge	Other		
ļ	Ripples i				Drill Holes	-	Offset	5-114			A			
	Torque \	Naves in I	Extrusion	1	Drawing	ı	(Out of C	Calibration						

Outside Dimensions

Date:

DQA:

Turning Sequence

Wave/Twist in Tube

October-30-12 8:48:01 AM

• Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Oty: 1.00

\*D3794-1\*

NAS1611-010

D3794-1

Manufactured

Purchased

No

230

Each

68

14.0000

Loc Code

\*\*

\*\*

Location Loc Oty FP 2 87631 2 FP012 12 90163 12 230 Each

336.0000

\*NAS1611-010\* O-RING

> Location Loc Qty FP 184 110915 0 123348 184 FP001 152 110915 14 117460 118077 118612 3 119438 39 121259 2 121584 121723 122151

> > 123352

Loc Code

NCR: Y	Yes /	No				WORK ORDER NON-	COI	<b>NFOR</b>	MANCE / UPD	DATE				
											QA Closed:	Date:	•	
Work Orde	er:					DISPOSITION	,	AGAINST DEPARTMENT/PROCESS						
Part No						Rework Scrap Use-as-is Work Order Update	Use-as-is Thermoforming Finishing				Prod Rec/Stor	Engineering Quality Other		
Root					Descri	ption of work order update		nitial	Acti	ion	Sign &			
Cause	D	ate	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descri	iption	Date	Verification	QC Inspector	
Doc/Data													·	
Equip/Tooling														
Operator			i									•		
Material				<u>}</u>										
Setup		ļ												
Other				İ										
Process														
Supplier		ĺ												
Training	$\Box$													
Unapproved							1							
					· · · · · · ·	· · · · · · · · · · · · · · · · · · ·	AUL	T CATE	JORY		·			
Landir	ng Gear				_	General		:.			Ovalized		Pressure/Forced	
	_	ding			o/s	Bend	$\vdash$	Grain		<b>-</b>	-	+ a l a v a v a a		
			t Concer	itric to	<sup>0/3</sup>  -	BOM/Route	$\vdash$	Hardwa		<u> </u>	Over/Under Part Incorred	<del></del>	Temperature/Cure Weld	
	Crac		ام مسمدان			Broken/Damaged Burrs	-	1	on Incomplete ions Incomplete/U	Inclose.	Part Incorrec		Wrong Stock Pulled	
	Cuff		rimped.		-	4	-	Mainte		<u></u>	Part Moved	22111B	I wrong stock runed	
	_	rs it Treat				Contamination Countersink	-	Mislabe		<del> </del>	Positioned W	drong.		
	_		Strip in	Tube	-	Cut Too Short	-	Misread		<del> </del>	Power Loss/		Other	
		oles in		TUDE	-	Drill Holes	$\vdash$	Offset	1	L	J. Ower 2033/.		Total	
			aves in E	xtrusio	, <u> </u>	Drawing	-	ł	`alibration					
		•	dilence		·	Finish	<b></b>							

**Outside Dimensions** 

DQA:

Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

October-30-12 8:48:01 AM

• Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name:

Skidtube RH

Manufactured

Purchased

Purchased

No

No

No

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date: 13/11/2012** 

Start Otv: 1.00

Required Oty: 1.00

D2741

NAS1515H3L

\*NAS1515H3L\*

WASHER

Location Loc Oty FG 85480 ST466 43 71856 85480 4 38 88824

250

Each

230 Each

167.0000 \*\*

44.0000

Loc Code

Location Loc Qty Loc Code FG 102472 40 ST277 127 118686 3 120360 11 121556 45 68 122151 230 Each 128.0000

\*\*

\*NAS1611-013\*

O-RING

NAS1611-013

<b>Location</b>	Loc Qty	Loc Code	
FP001	128		
116582	5		
117291	2		
117887	53		
119623	36		
121825	10	14753711	X O
122993	22	, ,, , ,	

NCR: Y	es / No				WORK ORDER NON-O	100	VFOR	MANCE / UPI	DATE				
										QA Closed:	Date:		
Work Orde	r:				DISPOSITION	<b>,</b>	AGAINST DEPARTMENT/PROCESS						
Part No.					Use-as-is Thermoforming Finishing			Small Fab Finishing	-∤	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other		
NCR No.				<del></del>	Work Order Update			Large Fab	Composite	J	Supplier		
Root				Descri	ption of work order update		nitial	Act	ion	Sign &			
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector	
Doc/Data													
Equip/Tooling													
Operator													
Material						:							
Setup						:							
Other	<b>.</b>										ļ		
Process													
Supplier			1 1									,	
Training											1		
Unapproved		<u> </u>				<u> </u>	T CATE	CORY			L		
					·	AUL	T CATE	JURY					
Landin	g Gear				<b>General</b> Bend		Grain			Ovalized		Pressure/Forced	
-	Bending Centre No	- <b>+</b> Camaan	ntria ta O	16	BOM/Route	-	Hardwa	ro	-	Over/Under	toloranco	Temperature/Cure	
	Cracks	ot Concer	ntric to O	" <sup>3</sup>  -	Broken/Damaged	$\vdash$	ł	on Incomplete	····	Part Incorre		Weld	
-	Crushed/	Crimpod		_	Burrs	$\vdash$	4	ions Incomplete/L	Inclear	Part Lost/M		Wrong Stock Pulled	
-	Cuffs	сппреи.		$\vdash$	Contamination	-	Mainte	,	-	Part Moved	1331116	_ Wrong Stock runeu	
-	Heat Trea	ı+		$\vdash$	Countersink		Mislabe		-	Positioned \	<b>N</b> rong		
ŀ	Inspection		Tuhe	-	Cut Too Short		Misreac		-	Power Loss/		Other	
F	Ripples in	•	rube	-	Drill Holes		Offset	•	L	٦. ٥٠٠٠ د د د د د د د د د د د د د د د د د		1-2	
F	Torque W		xtrusion		Drawing		1	Calibration					
}	Turning S			-	Finish		4	Sequence		· · · · · · · · · · · · · · · · · · ·			
<u> </u>	—'``''''' <sup>g</sup> <sup>3</sup>	CHUCITOE	,	<u> </u>	1' ''''''	<u> </u>	1						

Outside Dimensions

DQA: \_\_\_\_ Date: \_\_\_

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C6A Purchased No 230 Each 979.0000 \*AN3C6A\*

Location			Loc Qty	Loc Code		
FG			10			
	122416		10			
FP001			1			
	111982		1			
ST512			968			
31312						
	111982		2			
	116419		23			
	116549		2			
	116704		. 12			
	117619		10			
	117688	•	1			
	117872		5			
	118422		13			
	119449		21			
	120423		3			
	120693		34			
	121682		4			
	122416		338			
	122599		500			XL
		230	Each	396.0000	1	1

NAS1149C0832R

WASHER

Purchased

No

Location Loc Qty Loc Code 296 200 122441 200 ST297 196 114915 196

October-30-12 8:48:01 AM

\*NAS1149C0832R\*

												DQA:	Da	ite:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORI	MANCE / UP	DATE					
												QA Closed:	Da	ite:	<u> </u>
Work Order:						DISPOSITION AGAINST DEPARTMENT/PROCE									
Work Old	ei.					Rework	Skid-tube Crosstube				1	Water Jet		Engineering	
Part I	No.					Scrap						<b>→</b>			Quality
						Use-as-is	1 '	1	noforming	Finishing		Rec/Store/Packaging			Other
NCR I	No.					Work Order Update			Large Fab	Composite			Supplier		
Root					1	iption of work order update		Initial	ł	tion		Sign &			
Cause	<b>,</b>	Date	Step	Qty		or Non-conformance	Cr	nief Eng	Desc	ription	_	Date	Verificatio	n	QC Inspector
Doc/Data															
Equip/Tooling									1						
Operator					]		Ì								
Material							1								
Setup															
Other															
Process															
Supplier					ļ										
Training															
Unapproved					]										
						F	AUI	LT CATE	GORY						
Landi	ng (	Gear				General		_		-		-			-
Bending						Bend		Grain		[		Ovalized			Pressure/Forced
Centre Not Concentric to O/S					o/s	BOM/Route		Hardwa	re	[		Over/Under tolerance			Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	ion Incomplete			Part Incorrect			Weld
	Crushed/Crimped					Burrs		Instruct	ions Incomplete/I		Part Lost/Missing			Wrong Stock Pulled	

Maintenance

Out of Calibration
Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Part Moved

Positioned Wrong

Power Loss/Surge

Other

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Cuffs

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

D3536-25

\*D3536-25\*

Manufactured

Manufactured

230

Each

8.0000

Location	<u>1</u>	Loc Q	¥	Loc Code				
FG			2	139181	A.			
	87053		2	12 1101	7			
FP			1					
	83900		1					
FP002			5					
	89057		1					
	90820		4					
		230	Each	9.0000		1	1	
					**			nlulze

D3794-3

Location Loc Qiy Loc Code FP002 74530 1391855 86243

											DC	QA:	Date <sup>‡</sup> :	-
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	лANCE / UP	DATE	QA Clos	ed:	Date:	<u>.                                    </u>
Work Orde	or:					DISPOSITION AGAINST D				DEPARTMENT/PROCESS				
Work Order:  Part No.  NCR No.						Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering Quality Other
Root					Descri	otion of work order update		Initial	Ac	tion	Sign 8			
Cause		Date	Step	Qty	c	or Non-conformance	Cł	nief Eng	Desc	ription	Date	Ve	erification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved														
							FAUI	LT CATE	GORY					
Landi	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend			General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		<b>⊣</b> `	on Incomplete ions Incomplete/ nance led	'Unclear	Ovalized Over/Un Part Inco Part Lost Part Mov Positione	der toler orrect :/Missing ved ed Wron	g	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other		

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

Purchased

Manufactured

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

H

**Required Date: 13/11/2012** 

Start Oty: 1.00 34

414.0000

Required Qty: 1.00

ululzi

AN3C5A

\*AN3C5A\*

Loc Qty Location Loc Code FG M123741 5 122800 ST512 409 115835 116419 28 117343 13 117764 117872

23

28

23

179

80

19

230

Each

230

119749 120423 121255 121708 122141 122800

No

No

Each 60.0000 3 \*\*

\*D3537-1\* Wearpad

D3537-1

Location Loc Qty Loc Code B91645 FG 88562 FP001 46 90197 22 91668 24 FP002 12 83254 83255 3 87697 88562

October-	30-12	8:48:01	$A\Lambda$

											DQA:	Date:	•
NCR:	Yes	/ No				WORK ORDER NON-O	COI	NFORM	MANCE / UPDAT		•		
								<del></del>			QA Closed:	Date:	
Work Ord	ar.					DISPOSITION			A	AGAINST DEI	PARTMENT/	PROCESS	
WOIK OIG	C1.					Rework	Rework Skid-tube Crosstu			rosstube		Water Jet	Engineering
Part I	No.					Scrap Machining Small Fab			$\vdash$	Prod	d. Eng. Coor.	Quality	
	•					Use-as-is Thermoforming Finishing			Rec/Stor	e/Packaging	Other		
NCR I	No.				<u>,                                      </u>	Work Order Update Large Fab Composite				Supplier			
					,								<del>,</del>
Root					· ·	ption of work order update	1	Initial	Action		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Descriptio	on	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator	Щ												
Material	Щ												
Setup	Ш									:			
Other	Ш												
Process													
Supplier													
Training	Ш												
Unapproved							<u> </u>						
							AUL	T CATE	GORY				
Landi	<del></del>					General	_	1			1	<del> </del>	, 1
	<b>├-1</b>					Bend		Grain		<b>—</b> —	Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				o/s	BOM/Route	<u></u>	Hardwa		<del></del>	Over/Under	·	Temperature/Cure
	Cracks					Broken/Damaged		1 '	on Incomplete	ļ	Part Incorred		Weld
	Crushed/Crimped.				Burrs		4	ions Incomplete/Uncle	<b>├</b> ─	Part Lost/Mi	ssing	Wrong Stock Pulled	
	Cuffs				<u> </u>	Contamination	L	Mainte		<b>—</b>	Part Moved		
	Heat Treat					Countersink		Mislabe	led		Positioned W		7
	ı	Inspection Strip in Tube Cut Too Short Misread							1	Power Loss/	Surge	Other	

Offset

Out of Calibration
Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

## Picklist Print

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

Start Date: 30/10/2012

**Required Date: 13/11/2012** 

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured

Manufactured

230

Each

Each

17.0000

\*\*

\*D3535-25\*

Location Loc Oty Loc Code FP001 62233 81357 87385 6 90061 9 155.0000

230

\*D3492-3\*

D3492-3

Locatio	<u>•n</u>	Loc Qty	Loc Code
FP001		40	
	90322	40	
FP002		40	
	89291	40	
ED A		75	

AN960C10L

NAS1149C0332

Purchased

No

21.0000 38

\*\*

12/11/21

\*AN960C10I \* 4

Location ST

107534

Loc Qty 21

230

60

Each

KA123355

Loc Code

x38

38

											DQA:	Date:	•
NCR:	Yes	/ No				WORK ORDER NON-	-co	NFOR	MANCE / UP	DATE			
<u></u>						<del>, , , , , , , , , , , , , , , , , , , </del>					QA Closed:	Date:	•
Work Ord	or.					DISPOSITION				AGAINST DE	EPARTMENT	/PROCESS	
WOIK OIG	C1.				<del></del>	Rework	Rework Skid-tube Crosstube				Water Jet Engineering		
Part I	No.					Scrap Machining Small Fab			Pro	Quality			
						Use-as-is Thermoforming Finishing			Rec/Sto	re/Packaging	Other		
NCR	No.					Work Order Update Large Fab Composite			Supplier				
Root					Descri	otion of work order update	T	Initial	Ac	ction	Sign &		
Cause		Date	Step	Qty	C	or Non-conformance	CI	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data			1					•					
Equip/Tooling													
Operator		_											
Material													
Setup													
Other													
Process							1						
Supplier							1						
Training				,									
Unapproved													
							FAU	LT CATE	GORY				
Landi	ng (	Gear				General	_	_					-
		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre Not Concentric to O/S				BOM/Route		Hardwa	re		_Over/Under	tolerance	Temperature/Cure
	Cracks					Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
	Crushed/Crimped.					Burrs		Instruct	ions Incomplete	'Unclear	Part Lost/M	issing	Wrong Stock Pulled
Cuffs					Contamination		]Mainte	nance		Part Moved			
	Heat Treat					Countersink		Mislabe	eled		Positioned \	<b>V</b> rong	_
	Inspection Strip in Tube					Cut Too Short		Misread	1		Power Loss,	'Surge	Other
		Ripples in Bend				Drill Holes		Offset			_		

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing Finish

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D3488-042

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

Start Qty: 1.00

Required Qty: 1.00

**Required Date: 13/11/2012** 

Manufactured

Purchased

No

No

230

Each

7.0000

Loc Code

\*\*

\*D3488-042\*

Blade Fitting Assembly, RH

Location Loc Qty FP002 83417 2 85734 3 86054 2 230 Each

2,201.000 38

\*\*

38

\*ALS4-1032-225\*

Insert

ALS4-1032-225

Locatio	<u>n</u>	Loc Oty	Loc Code	
FP-B		770		
	122290	770		
ST281		1408		X :
	108696	146		
	110768	62		
	118386	. 55		
	118966	. 68		
	121269	77		
	122827	1000		
ST282		23		
	120410	10		
	120451	13		

NCR: \	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												
											QA Closed:	Date	
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT,	PROCESS	
Part N	No					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			4	Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root					Descri	ption of work order update		nitial	Act	ion	Sign &		
Cause	Da	ite S	tep	Qty	C	or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator													
Material	_		ļ										
Setup		ŀ		1									
Other													
Process													
Supplier				.					-				
Training													
Unapproved							<u> </u>				<u> </u>		
						<u> </u>	AUL	T CATE	GORY				
Landii	ng Gear					General		C t		_	1	Г	
	Bend	_			, —	Bend	$\vdash$	Grain Hardwa		<u> </u>	Ovalized Over/Under	talaransa	Pressure/Forced Temperature/Cure
		re Not Co	oncen	tric to U	/s  -	BOM/Route	-			-	Part Incorred	ļ	Weld
	Crac		لممم			Broken/Damaged	-		on Incomplete ions Incomplete/L	Incloar	Part Lost/Mi	<b>⊢</b>	Wrong Stock Pulled
	Crushed/Crimped. Burrs				Contamination	-	Mainte	•	niclear	Part Moved	22111B		
ł	<del>  </del>			Countersink	$\vdash$	Mislabe		<u> </u>	Positioned V	Vrong			
	<u> </u>			Cut Too Short		Misread		<u> </u>	Power Loss/		Other		
Ripples in Bend Drill Holes					Н	Offset	•	<u> </u>	]. 546, 2533/	L	12.00		
ł	Torque Waves in Extrusion Drawing					Out of Calibration							
Ì	Turning Sequence Finish				<del>-</del>	Out of Sequence							
1		J 1				1	-		•				

Date: \_\_

DQA: \_\_\_\_\_

Wave/Twist in Tube

## **Picklist Print**

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-1

\*D3492-1\*

Manufactured

Manufactured

No

230

Each

114.0000

Locatio	<u>n</u>	Lo	e Oty	Loc Code		
FP002			18			
	69531		8			
	74444		2			
	76235		4			
	88541		3			
	89363		1			
FP-A			96			
	83098		7			
	91466		89			X
		230	Each	15.0000	1	1

D3793-1

Location Loc Qty Loc Code FP001 15 82171 2 87273 3 89999 10

\*\*

October-30-12 8:48:01 AM

NCR: Y	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE													
										QA Closed:	Date	·		
Work Orde	er:		-		DISPOSITION				AGAINST DE	PARTMENT	PARTMENT/PROCESS			
Part N	lo				Rework Scrap Use-as-is Work Order Update		Thern	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	i	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other		
Root			1	Descri	tion of work order update		nitial	Act	ion	Sign &				
Cause	Date	Step	Qty		or Non-conformance	1	ief Eng	Descr	ription	Date	Verification	QC Inspector		
Doc/Data														
Equip/Tooling														
Operator														
Material														
Setup														
Other														
Process								<b>-</b>						
Supplier														
Training														
Unapproved			<u> </u>											
						AUL	T CATE	GORY						
Landii	ng Gear			_	General		۱			1	_	7		
	Bendir	_			Bend	$\vdash$	Grain		ļ	Ovalized	<b>-</b>	Pressure/Forced		
		Not Conce	ntric to	<sup>O/S</sup>  -	BOM/Route	-	Hardwa		<u> </u>	Over/Under	<b>⊢</b>	Temperature/Cure		
	Cracks	uo:		-	Broken/Damaged		t '	on Incomplete	–	Part Incorred	<b>⊢</b>	Weld		
	_	d/Crimped		-	Burrs	$\vdash$	ł	ions Incomplete/l	Inclear	Part Lost/Mi	ssing	Wrong Stock Pulled		
	Cuffs				Contamination	$\vdash$	Mainte		<u></u>	Part Moved	lana			
	Heat T		Tuba	ļ	Countersink Cut Too Short	-	Mislabe Misread			Positioned V Power Loss/		Other		
}		ion Strip ir	ilube	$\vdash$	Drill Holes	-	Offset	I	<u> </u>	Jeower coss/	ouige	Tottlet		
	├─ <b>─</b> ''				4	$\vdash$		alibration						
	·			Drawing Finish	Out of Calibration Out of Sequence									
	Turning Sequence Finish						Jour of 3	equence						

Date:

DQA:

Wave/Twist in Tube

October-30-12 8:48:01 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date: 13/11/2012** 

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

15.0000

\*AN8C35A\*

<b>Location</b>	Loc	Oty	Loc Code		
FG		5			
121275		5			
FP002		9			
115960		1			
121275		8			
ST346		1			
114442		0			
115188		0			
115960		1			
	230	Each	50.0000	i	1

MS21083C8

Purchased

No

\*MS21083C8\* NUT

<b>Location</b>	Loc Oty	Loc Code	
318	. 2		
122452	2		
FP002	1		
115884	1		
ST303	4		
115884	0		
118077	1		
119309	2		
119638	1		
ST319	38		
123346	38		X \
ST321	5		
122141	5		

NCR: Y												
					<b>4</b>					QA Closed:	Date	:
Work Orde	ar.				DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	
WOIR Olde			<del></del>		Rework	7 <b> </b>		Skid-tube	Crosstube	]	Water Jet	Engineering
Part N	lo.				Scrap	1	Machining Small F.			Pro	d. Eng. Coor.	Quality
					Use-as-is	1	Thermoforming Finis		Finishing	4	re/Packaging	Other
NCR N	lo				Work Order Update	]	Large Fab Compo		Composite		Supplier	
	<u> </u>	T				<u> </u>				T 6: 0		
Root					ption of work order update		nitial ·		tion ·	Sign &		061
Cause	Date	Step	Qty		or Non-conformance	Cn	ief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator	_											
Material	_											
Setup		1										
Other	_									}		
Process	_						,					
Supplier	_											
Training												
Unapproved		<u> </u>	<u> </u>		·	A 1 11 1	T CATE	CORV		<u> </u>		1
l amelie	ng Gear				General	AUL	CATE	JORY				
Lanun	Bending			Г	Bend		Grain			Ovalized	Г	Pressure/Forced
ŀ	Centre No	at Cancai	ntric to 1		BOM/Route	$\vdash$	Hardwa	ro	<del> </del>	Over/Under	tolerance	Temperature/Cure
ŀ	Cracks	Ji Concei	HILL LO	),3  -	Broken/Damaged	$\vdash$		on Incomplete	<u> </u>	Part Incorre	}	Weld
}	Crushed/	Crimned		-	Burrs	<b></b>	-	ions Incomplete/E	Unclear	Part Lost/Mi	<del> </del>	Wrong Stock Pulled
ŀ	Cuffs	ci ilipeu.	•	-	Contamination	-	Mainte	•	- Cicar	Part Moved	331116 L	
ŀ	Heat Trea	nt			Countersink	$\vdash$	Mislabe			Positioned V	Vrong	
ŀ	Inspection		Tuhe	<u> </u>	Cut Too Short	$\vdash$	Misreac		·	Power Loss/	_	Other
ł	Ripples in		, asc	-	Drill Holes	-	Offset	•	L	1. 0.1.0, 2000)		1
ŀ	<b></b> -		xtrusion	, <u> </u>	Drawing	-		Calibration				
ŀ	Torque Waves in Extrusion Turning Sequence			Finish	$\vdash$	Out of Sequence						
	1	1		1	1			•				

DQA: \_\_\_\_\_Date: \_\_\_\_

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

October-30-12 8:48:02 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name:

Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

D2745

Bushing

Manufactured

230

Each

30.0000

Il alulza

<b>Location</b>	Loc	<u>Qty</u>	Loc Code		
FP		26	B97539		X O
79518		6	10 . ~		
87527		4			
89303		16			
FP001		4			
69529		1			
76142		1			
83260		2			
	230	Each	58.0000	4	4

AN6C44A

Purchased

No

Jul ulalza

Location	Loc Qty	Loc Code	
FG	2		
103964	2		
ST340	38		· 
122491	38		
ST341	4		X - 4
122843	4		
ST343	14		
121013	11		
121167	2		
122204	1		

NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE														
	•							-		QA Closed:	Date:	•		
Work Orde	er:				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
					Rework	]		Skid-tube	Crosstube	]	Water Jet	Engineering		
Part N	١٥				Scrap	]		Machining	Small Fab	4	d. Eng. Coor.	Quality		
					Use-as-is	<b>↓                                    </b>		noforming	Finishing	Rec/Sto	re/Packaging	Other		
NCR N	No				Work Order Update	ا ا		Large Fab	Composite	j	Supplier			
Root				Descri	ption of work order update		nitial	Act	ion	Sign &				
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector		
Doc/Data														
Equip/Tooling														
Operator														
Material														
Setup														
Other										}				
Process														
Supplier	_		İ											
Training														
Unapproved		<u> </u>				<u> </u>	T CATE	GORY		<u>.</u>		l		
Landii	ng Gear				General	AUL	CATE	3001	* * * ***		148.4540040			
Latiuii	Bending				Bend		Grain			Ovalized		Pressure/Forced		
	Centre N	ot Conce	ntric to C	)/5	BOM/Route	$\vdash$	Hardwa	re		Over/Under	tolerance	Temperature/Cure		
	Cracks				Broken/Damaged	$\vdash$		on Incomplete		Part Incorre	<u> </u>	Weld		
	Crushed/	Crimped.	_		Burrs	$\vdash$		ions Incomplete/U	Jnclear	Part Lost/Mi	<del></del>	Wrong Stock Pulled		
	Cuffs	•			Contamination	-	Mainte	•		Part Moved	_	-		
	Heat Tre	at			Countersink	П	Mislabe	led		Positioned V	Vrong	_		
Ì	Inspectio	n Strip in	Tube		Cut Too Short		Misreac	ı		Power Loss/	Surge	Other		
	Ripples in	n Bend			Drill Holes		Offset		•					
	Torque V	Vaves in E	Extrusion		Drawing		Out of C	Calibration						
	Turning Sequence		Finish		Out of Sequence									

Date:

DQA:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

October-30-12 8:48:02 AM

Work Order ID: 92462

Parent Item:

D3532-1

D350-636-012

Parent Item Name:

Skidtube RH

Manufactured

Purchased

No

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date: 13/11/2012** 

Required Qty: 1.00

Start Qty: 1.00

MS21083C8

NUT

Location Loc Qty ST055 20 85484 8 91324 12 250 Each

250

50.0000

Loc Code

20.0000

Location	Loc Oty	Loc Code	
318	. 2		
122452	2		
FP002	1		•
115884	1		
ST303	4		-
115884	0		#M.C
118077	1.		
119309	2		
119638	1		
ST319	38		
123346	38		1233
ST321	5		

Each

October-30-12 8:48:02 AM

**Shop Packet Print** 

122141

Page 15

										DQA:	Dat	:e:	•
NCR:	Yes / No	)			WORK ORDER NON-O	COI	NFOR	MANCE / UPI	DATE				
										QA Closed:	Dat	:e:	•
Work Ord	or:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
VVOIK OIG	er				Rework	7	ŀ	Skid-tube	Crosstube	1	Water Jet		Engineering
Part I	No				Scrap	1	<u> </u>	Machining	Small Fab	Pro	d. Eng. Coor.	$\dashv$	Quality
1 410				<del></del>	Use-as-is	1	Ī	noforming	Finishing	4	re/Packaging	$\dashv$	Other
NCR I	No.				Work Order Update	1		Large Fab	Composite	~ <del>}</del>			
	****												
Root				Descri	ption of work order update		Initial	Act	tion	Sign &			
Cause	Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Desci	ription	Date	Verification	1	QC inspector
Doc/Data	Ш												
Equip/Tooling	Ш												
Operator													
Material													
Setup		į		i				:			٠.		
Other	Ш												
Process	Щ												
Supplier		ĺ	`										
Training	<u> </u>	į											
Unapproved							T CATE	CORV			<u> </u>		
1 1					General F	AUL	LICATE	JURY		<del></del>		•	
Landi	ng Gear Bendin	<del>~</del>			Bend		Grain			Ovalized	ſ	— <u> </u>	Pressure/Forced
		в Not Conce	ntric to I	0/8	BOM/Route	-	Hardwa	re	<u> </u>	Over/Under	tolerance	-	Temperature/Cure
	Cracks	HOL COINE	intine to	·, · · ·	Broken/Damaged	-	1	on Incomplete	<u> </u>	Part Incorre	· · · · · · · · · · · · · · · · · · ·	_	Weld
	$\vdash$	d/Crimped			Burrs	$\vdash$	1	ions Incomplete/l	Inclear	Part Lost/Mi	ŀ		Wrong Stock Pulled
	Cuffs	u, crimpeu	-		Contamination		Mainte	,	<u> </u>	Part Moved	6	' `	The brook and
			Countersink	Mislabeled			Positioned V	Vrong					

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish Folio October-30-12 8:48:02 AM

Work Order ID: 92462

Parent Item:

D350-636-012

Parent Item Name: Skidtube RH

\*92462\* \*D350-636-012\*

**Start Date:** 30/10/2012

**Required Date:** 13/11/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased

Manufactured

No

No

250

Each

129.0000

Loc Code

5.0000

Loc Code

6.0000

\*\*

\*NAS1149D0863

Loc Qty Location ST298 129 118078 18. 119307 120308 10 121556 100 250 Each

120308

Washer

D3493-1

Location Loc Qty ST052 5 77573 82023 83097

\*\*\*ONLY INSTALL IF INSTALLING ON APICAL FLOAT SYSTEM\*\*\*

AN8C21A

Purchased No

250 Each \*\*

123642



Location Loc Qty Loc Code ST341 122519 5 ST343 118758

											DQA:	Dat	te: _	• 
NCR:	Yes	/ No				WORK ORDER NON-	NFORI			_				
											QA Closed:	Dat	te:	
Work Ord	or:					DISPOSITION				AGAINST DE	EPARTMENT/PROCESS			
Work Ord	٠					Rework	٦		Skid-tube	Crosstube	1	Water Jet		Engineering
Part f	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.		Quality
	•	<del></del>		· · · · · · · · ·	<del></del>	Use-as-is	1	Thern	noforming	Finishing	Rec/Sto	re/Packaging		Other
NCR I	No. ِ					Work Order Update			Large Fab	Composite		Supplier[		
Root					Descri	ption of work order update		Initial	Act	tion	Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ct	nief Eng	Desci	ription	Date	Verification	1	QC Inspector
Doc/Data	Ш													
Equip/Tooling														
Operator	Ш													
Material	Щ		1											
Setup	Щ		1	1								į		
Other	Ш													
Process	Ш												- 1	
Supplier			1											
Training	Ш		1											
Unapproved			1	<u> </u>							<u> </u>			
							AUI	LT CATE	GORY					
Landi					_	General	_	٦		<u></u>	3	ſ		
	$\vdash$	Bending				Bend	_	Grain		_	Ovalized			Pressure/Forced
	-	Centre N	ot Concei	ntric to O	/s	BOM/Route	$\perp$	Hardwa		<u> </u>	Over/Under	1	-	Temperature/Cure
	-	Cracks			ļ	Broken/Damaged	$\perp$	<b>-</b> 1 '	on Incomplete		Part Incorred	ŀ	-	Weld
	-	Crushed/	Crimped.			Burrs	<u> </u>	-	ions Incomplete/	Unclear	Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs				Contamination	<u> </u>	Mainte		<u> </u>	Part Moved			
		Heat Trea			<u> </u>	Countersink	_	Mislabe		igspace	Positioned V	1		
	-	Inspectio		Tube		Cut Too Short	_	Misread	i	<u></u>	Power Loss/	Surge		Other
	Ripples in Bend					Drill Holes		Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

QTY | QTY | QTY -042 | -043 | -044 OTY DESCRIPTION PART NUMBER -041 X D2750-041 350 SKIDTUBE ASSEMBLY, LH D2750-042 350 SKIDTUBE ASSEMBLY RH D2750-043 350 SKIDTUBE ASSEMBLY, LH X D2750-044 350 SKIDTUBE ASSEMBLY, RH D2739 WEB SPACER 8 8 8 D2743 8 D2744 CAP 1 1 8 D2745 BUSHING -8 8 8 D2750-1 SKIDTUBE WELDMENT, LH SKIDTUBE WELDMENT, RH D2750-2 SKIDTUBE WELDMENT, LH D2750-3 D2750-4 SKIDTUBE WELDMENT, RH D3488-041 BLADE FITTING, LH D3488-042 BLADE FITTING, RH 4 4 4 D3490-1 SPACER 4 4 4 D3490-3 SPACER D3490-5 SPACER 4 PLUG ASSEMBLY 8 8 8 8 D3492-041 D3492-043 PLUG ASSEMBLY 8 D3492-045 PLUG ASSEMBLY 1 1 1 D3535-25 WEARSHOE D3536-25 GASKET Æ WEARPAD 3 3 3 3 D3537-1 В 8 8 8 D3631-1 WASHER WEARPLATE 1 1 1 1 D3791-1 D3793-1 WEARSHOE 1 1 D3793-3 WEARSHOE 1 1 Æ 1 1 1 1 D3794-1 GASKET 1 D3794-3 GASKET INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225) 38 ALS4-1032-225 Æ-34 34 34 AN3C5A BOLT 34 4 4 4 4 AN3C6A BOLT 4 4 AN6C44A BOLT 1 AN8C35A 1 1 BOLT 38 38 38 38 AN960C10L WASHER Æ-1 1 AN960C816L WASHER 1 4 4 4 4 MS21043-6 NUT 1 MS21083C8 1 NUT 4 NAS1515H3L 4 WASHER 4

SHOP COPY RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER MLJ NO. 92462 MLJ 12-10-30

INCORPORATE DSI 9413: Q1Y (3) D3537-1 WAS Q1Y (5) (ŽN C8-1); D3791-1/3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1);

2

350 SKIDTUBE ASSEMBLY

COPYRIGHT © 1998 BY DART AEROSPACE USA, INC
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F	(8 PL), V D3488-0 ADD NO	SHOE HOLES L WEARSHOE HA D41/-042 HARD DTE 12 AND 13	РН	08.07.16				
Ε	CHANG ADD RU REMOV	N: REF. NCK 0 E TO STAINLE JBBER GASKE E QTY (38) NA	СВ	07.05.17				
	REMOV	ISHBL; ŘEMOV E QTY (2) MS2						
D	ADD HO	DLES AND SHA PORATE DEC 9	PH	06.01.05				
С	ADD D2	750-3/D2750-4	CP	98.11.18				
В	CHANG	E MS24694-S2	CP	98.09.01				
Α	NEW IS	SUE		DS	98.04.16			
REV.			DESCRIPTION	BY	DATE			
DESIG	N	PG,	DART AEROSPACE	USA	INC.			
DRAW	ν .	RU	PORT HADLOCK,	WA				
CHECK	ŒD		DRAWING NO.		REV. F			
MFG. A	PPR.	ALC	D2750	5	SHEET 1 OF 11			
APPRO	VED	100	TITLE		SCALE			
DE API	PR.	7	350 SKIDTUBE ASSEMBLY					

DE APPR

08.07.16

DATE

MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).

... ACID ETCH, ALONDE ASSEMBLY PER DART OSI 005 4.1 PRIOR TO INSTALLING D2739 WEB. POWDER COAT WHITE (REF. 4.3.5.1) PER DART OSI 005 4.2 INSTALLING D2739 WEB. BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).

TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

UNITS: INCHES UNLESS OTHERWISE NOTED

BREAK SHARP EDGES: N/A

IDENTIFICATION: N/A

**GENERAL NOTES:** 

8

D

R

WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS

WELD PER DART QSI 004

INSTALL ALSA-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES (Ø0.297) FOR WEARSHOE INSERTS FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:

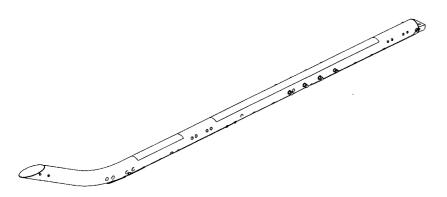
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI

SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF

POWDER COATING WITH MEK DEGREASER.

SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL PSPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

92462



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH



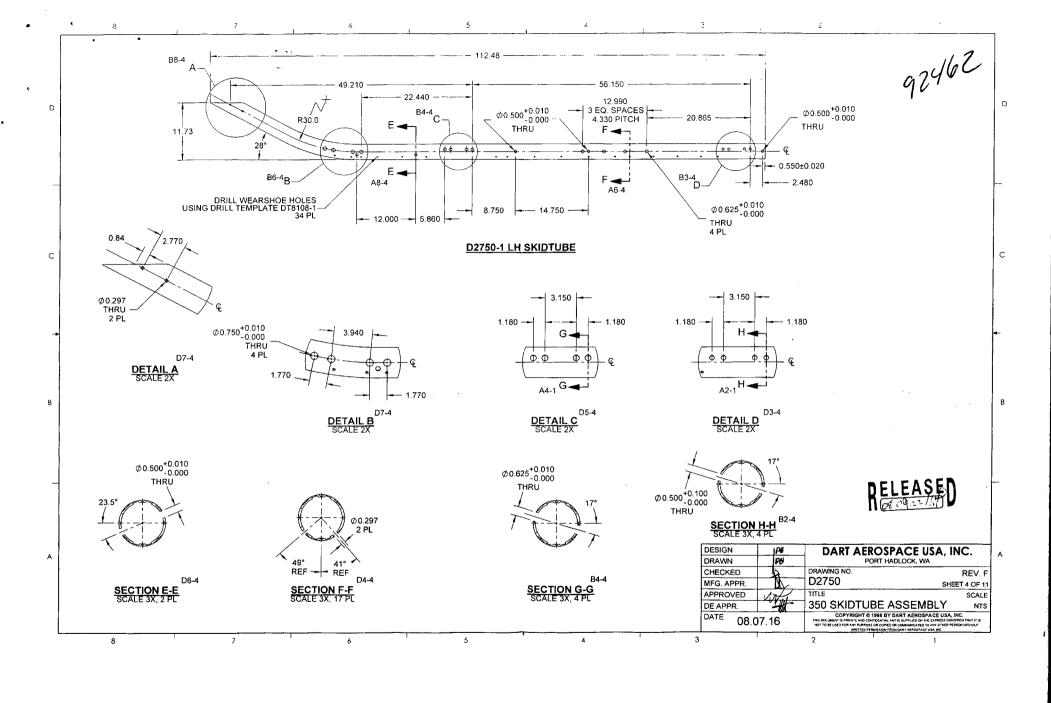
DESIGN P€		DART AEROSPACE USA, INC.							
DRAWN	Pd .	PORT HADLOCK, WA							
CHECKED	A.	DRAWING NO.	REV. F						
MFG. APPR.	M.	D2750 SHEE	T 2 OF 11						
APPROVED	M	TITLE	SCALE						
DE APPR.	-78-	350 SKIDTUBE ASSEMBLY	NTS						
DATE 08.0	7.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND COMPONITION, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE ON COMPONITIONATION FOR PRISON WITHOUT WRITTER PRISOSSOM PROMISED ANY ADMINISTRATION AND							

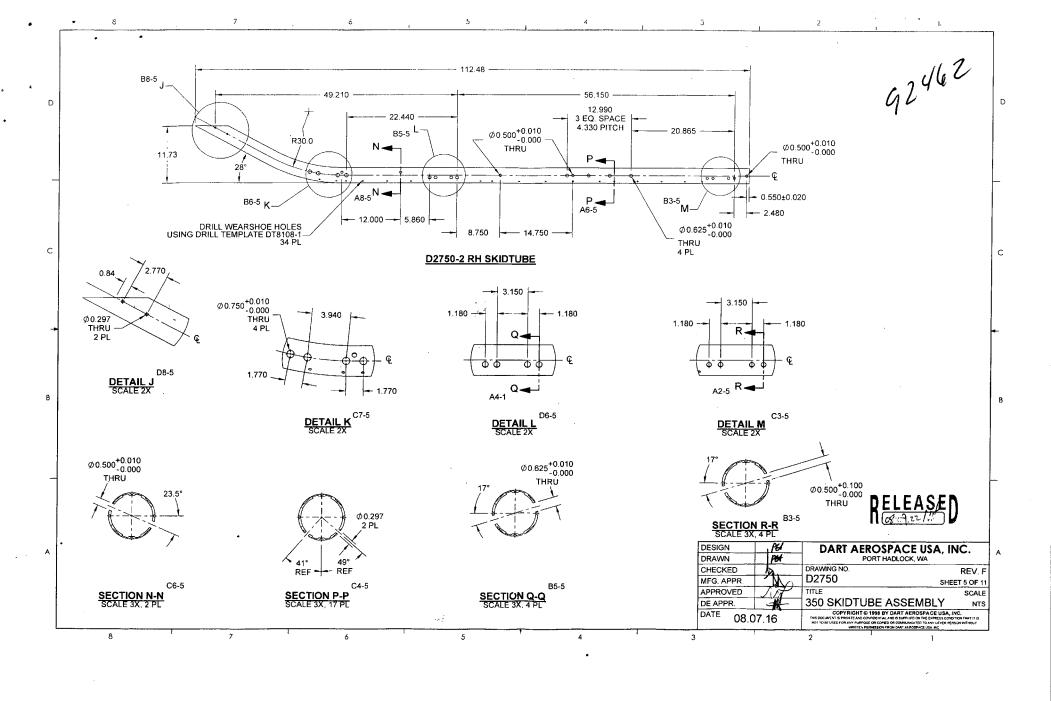
92462

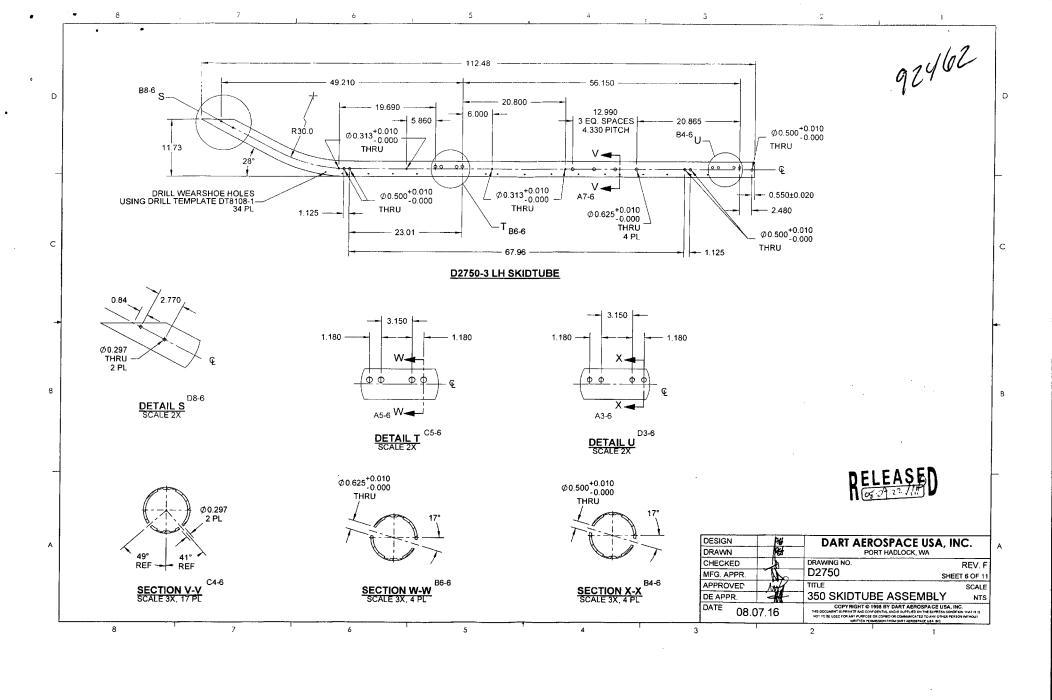
D2750-043 350 SKIDTUBE ASSEMBLY, LH

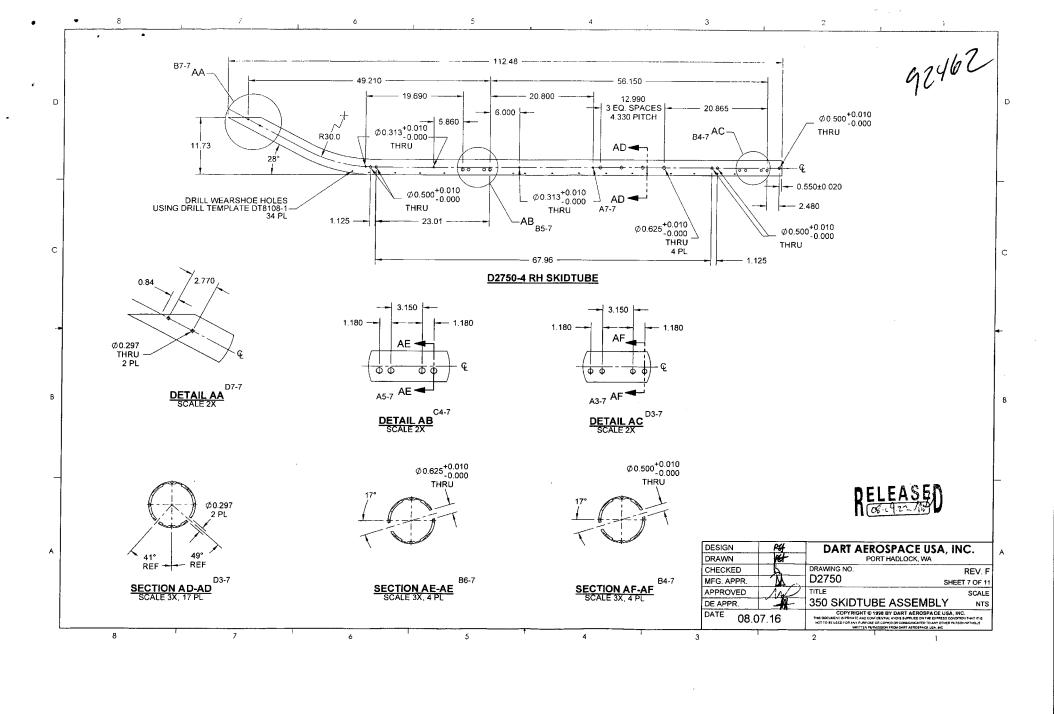
D2750-044 350 SKIDTUBE ASSEMBLY, RH

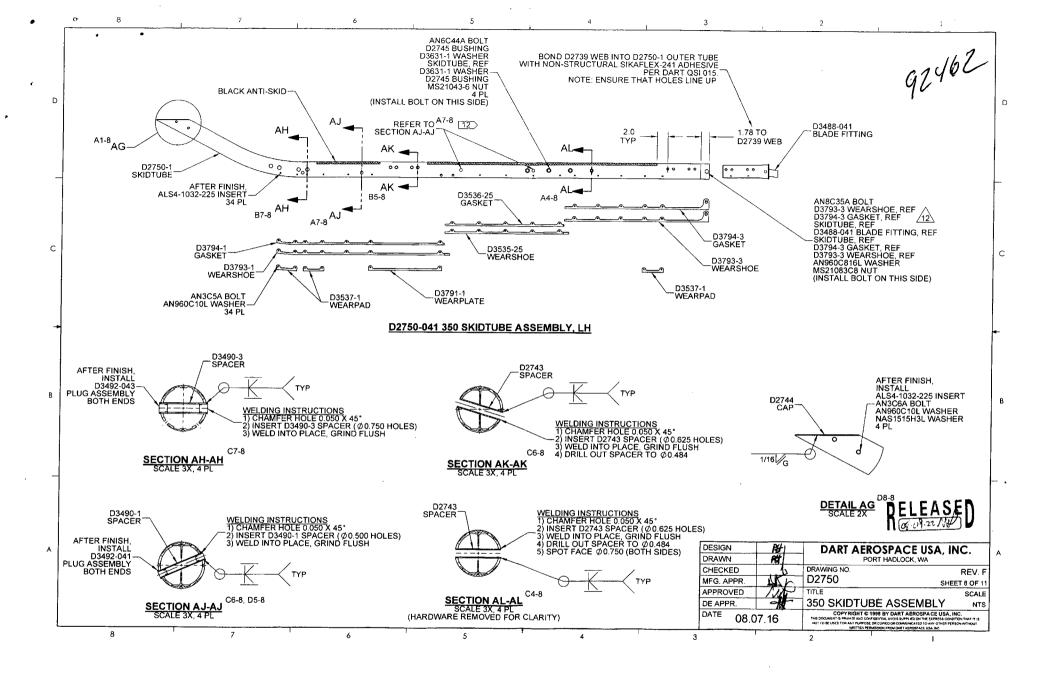
DESIGN	180	DART AEROSPACE USA, INC.							
DRAWN	Pel	PORT HADLOCK, WA							
CHECKED	. الحر	DRAWING NO.	REV. F						
MFG. APPR.	M	D2750	SHEET 3 OF 11						
APPROVED	MA	TITLE	SCALE						
DE APPR.	4	📆 350 SKIDTUBE ASSEME	BLY NTS						
DATE 08.0	07.16	COPYRIGHT © 1998 BY DART AEROSPA This DOCUMENT IS PRIVATE AND CONFEDENTIAL AND IS SUPPLED ON THE NOT TO BE USED FOR ANY PUMPOSE OR COMMUNICATED TO. WRITTEN PERMISSION FOR DRIVEN AND ARREST ARREST ARREST AND ARREST AND ARREST AND ARREST ARREST ARREST ARR	EXPRESS CONDITION THAT IT IS ANY OTHER PERSON WITHOUT						

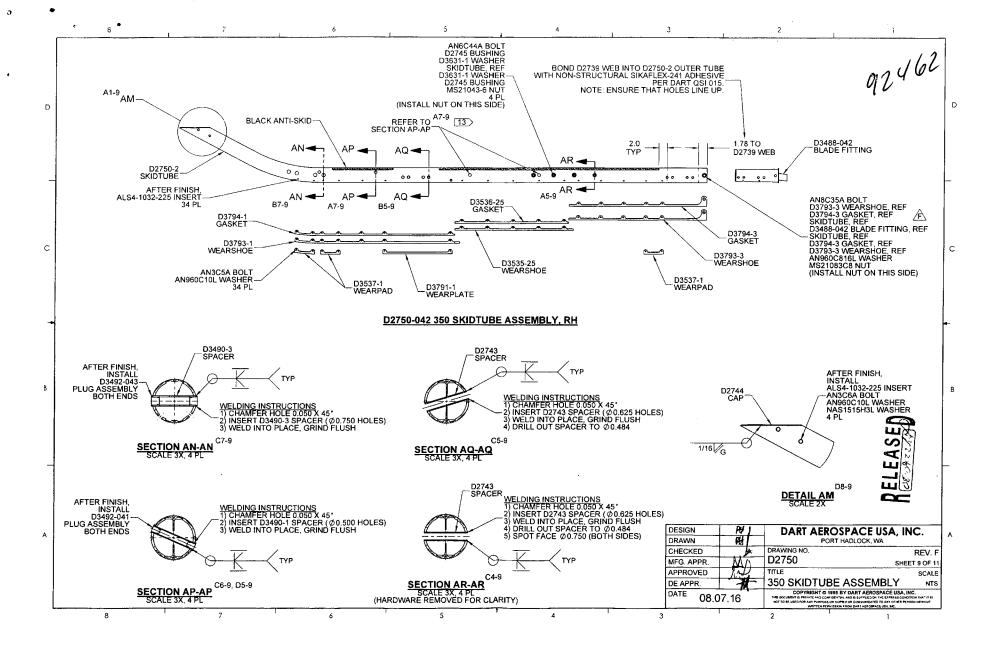


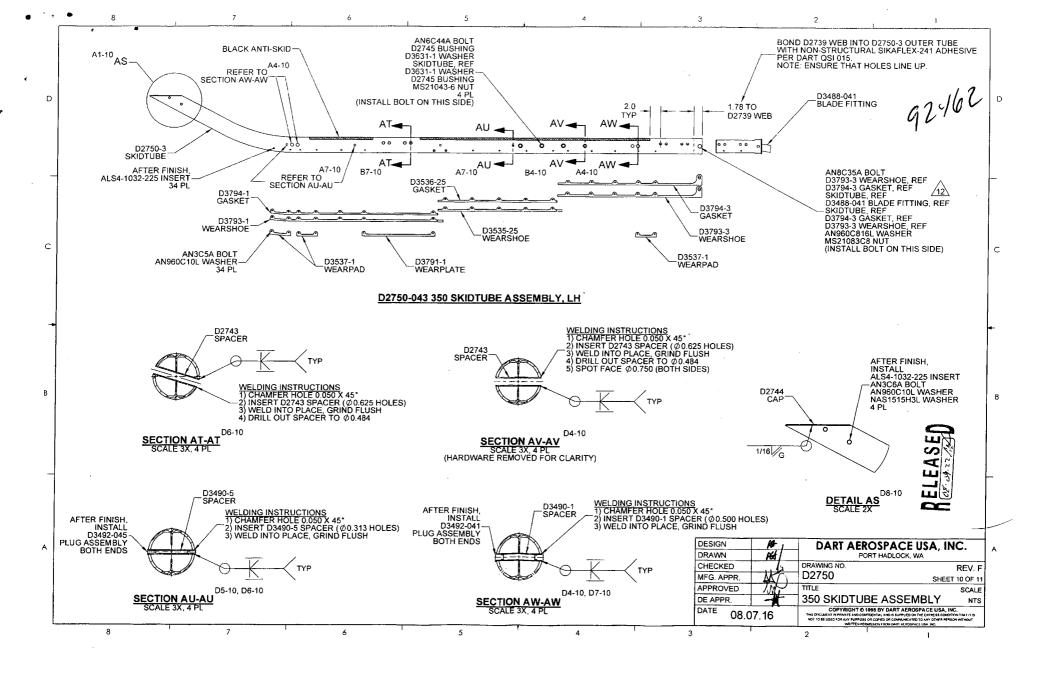


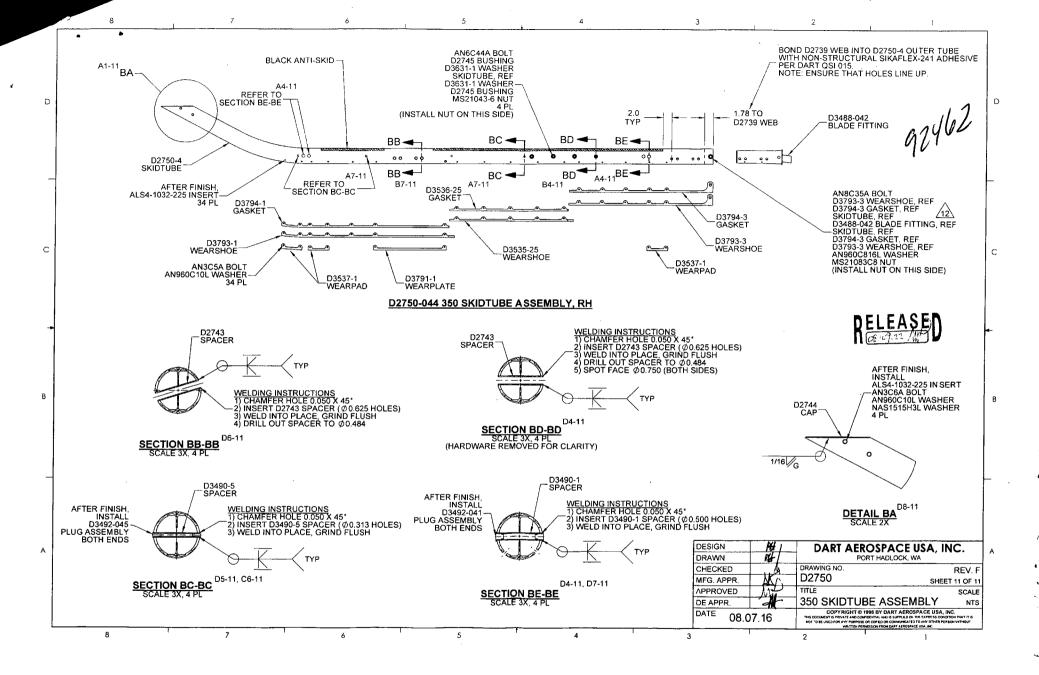












NO. 306

## AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: Barday Elliott	1 1		
lob #:90946 0			
Part #: 0350 - 636-011			_
Description: <u>Skid</u> tube			
Welding Process: Tig[// Mig[]			
Base materiel: Aluminium		<u> </u>	
Current: AC[V] DC[]		: .	

## TEST REQUIREMENTS AND RESULTS

Visual:	pass[/	fail[ ]			
Incomplete Penetration:	pass[-]	fail[]			
Incomplete Fusion:	pass[/	fail[ ]			
Cracks:	pass[	fail[ ]			
Overlap (cold lap)	pass[/]	fail[ ]			
Undercut:	pass[ ]	fail[ ]			
Pin holes:	pass[	fail[ ]			
Porosity (surface):	pass[]	fail[ ]			
Coloration:	pass[~]	fail[ ]			
Burn through:	pass[/]	fail[ ]			. : .
$\rho_{I} \sim \rho$					
Qualifier (d. )	_Date of To	est Coupon	la	-10-19	·
Welder Borclay Short	_ Date of T	est Coupon	12	10-12	
		i			

The above named individual is qualified in accordance with AWS D17.1.2001 to weld